

**Safety Data Sheet**  
**Ferric Nitrate Solution**

SDS Revision Date:

05/27/2015

**1. Identification****1.1. Product identifier****Product Identity**

Ferric Nitrate Solution (All Concentrations)

**Alternate Names**

Inorganic Nitrate Solution, Aqueous

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Intended use**

Industrial- See Technical Data Sheet.

**Application Method**

See Technical Data Sheet.

**1.3. Details of the supplier of the safety data sheet****Company Name**Blue Grass Chemical Specialties, LLC  
895 Industrial Boulevard  
New Albany, Indiana 47150**Emergency****24 hour Emergency Telephone No.**INFOTREC - 1-800-535-5053 (US/DOM)  
1-352-323-3500 (Intl)**Customer Service: Blue Grass Chemical Specialties, LLC**1-812-948-1115  
1-800-638-7197  
Fax: 1-812-948-1561**2. Hazard(s) identification****2.1. Classification of the substance or mixture**

Ox. Liquid. 2; H272

May intensify fire; oxidizer.

Skin Corr. 1B; H314

Causes severe skin burns and eye damage.

Eye Dam. 1; H318

Causes serious eye damage.

Corr. Liquid 1; H290

May be corrosive to metals.

**2.2. Label elements**

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

**Danger**

H272 May intensify fire; oxidizer.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

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H318 Causes serious eye damage.

**[Prevention]:**

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.

P220 Keep / Store away from clothing combustible materials.

P221 Take any precaution to avoid mixing with combustibles.

P234 Keep only in original container.

P260 Do not breathe mist / vapors / spray.

P264 Wash thoroughly after handling.

P280 Wear protective gloves / eye protection / face protection.

**[Response]:**

P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P310 Immediately call a POISON CENTER or doctor / physician.

P363 Wash contaminated clothing before reuse.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

P390 Absorb spillage to prevent material damage.

**[Storage]:**

P405 Store locked up.

P406 Store in corrosive resistant container (plastic/poly; stainless steel)

**[Disposal]:**

P501 Dispose of contents / container in accordance with local / national regulations.

### 3. Composition/Information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Iron(III) Nitrate, nonahydrate C.A.S. Number: 7782-61-8	25 - 55	Skin Irritant 2; H315 Eye Irritant 2; H319 Oxidizing Liquid 3; H272 Corrosive Liquid 1; H290 STOT SE 3; H335	[1]
Nitric acid C.A.S. Number: 7697-37-2	0 - 5	Oxidizing Liquid. 1; H272 Skin Corrosive 1A; H314	[1][2]
Water C.A.S. Number: 7732-18-5	Balance		

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

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\*The full texts of the phrases are shown in Section 16.

**4. First aid measures****4.1. Description of first aid measures**

<b>General</b>	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
<b>Inhalation</b>	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
<b>Eyes</b>	Irrigate copiously with clean fresh water for at least 15 minutes, holding the eyelids apart and seek medical attention.
<b>Skin</b>	Immediately flush the area with large amounts of water for at least 15 minutes, while removing contaminated clothing. Launder clothing before re-use. Call a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth and slowly drink several glasses of water. Call a physician. Do NOT give anything by mouth to an unconscious or convulsing person.

**4.2. Most important symptoms and effects, both acute and delayed**

<b>Overview</b>	EFFECTS OF OVEREXPOSURE: SKIN: Direct contact may result in irritation, reddening, swelling, and, if untreated, severe skin damage. EYES: Contact may cause severe irritation and corneal damage, if untreated. INGESTION: May cause harmful to fatal chemical burns to the mouth, esophagus, and stomach. INHALATION: Aerosols and mists may severely damage contacted tissue and produce scarring. Exposure to high concentrations may cause pulmonary edema and chemical pneumonia. CONDITIONS AGGRAVATED BY EXPOSURE: Lung disease. See section 2 for further details.
<b>Eyes</b>	Causes serious eye damage.
<b>Skin</b>	Causes severe skin burns and eye damage.

**5. Fire-fighting measures****5.1. Extinguishing media**

Recommended extinguishing media; alcohol resistant foam, CO<sub>2</sub>, powder, water spray.  
Do not use; water jet.

**5.2. Special hazards arising from the substance or mixture**

Hazardous decomposition: Oxides of carbon and nitrogen.  
Keep away from heat / sparks / open flames / hot surfaces - No smoking.  
Keep / Store away from clothing combustible materials.

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Take any precaution to avoid mixing with combustibles.

Do not breathe mist / vapors / spray.

### 5.3. Advice for fire-fighters

Fireman Should wear self-contained breathing apparatus when fighting fires involving this material. Excessive heat may yield toxic nitrogen oxides.

**NFPA Ratings: Health: 2; Fire: 0; Reactivity: 0**

Hazard Scale: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe

**ERG Guide No.** 154

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

### 6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

### 6.3. Methods and material for containment and cleaning up

Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8.

Contain and absorb spillage with Inert materials e.g. sand, earth, vermiculite. Place in appropriate containers outside buildings and dispose of according to the Waste Regulations. (See section 13).

Neutralize residual product in the spill area using Sodium Carbonate or Sodium Bicarbonate.

Clean, preferably with a detergent. Do not use solvents.

Do not allow spills to enter drains or watercourses.

If drains, sewers, streams or lakes are contaminated, inform the local water company immediately. In the case of contamination of rivers, streams or lakes the Environmental Protection Agency should also be informed.

Construct a dike to prevent spreading. Open enclosed spaces to outside atmosphere. Never return spills in original containers to re-use. If possible, stop flow of product. Contact Emergency Response Center for advice.

## 7. Handling and storage

### 7.1. Precautions for safe handling

Do not freeze.

Adhere to work practice rules established by government regulations. Contact with combustible material may cause fire. Prevent contamination by any source during handling or stage. This product should be kept in its original container until time of use to avoid any contamination. Never return unused product to its original storage container.

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All equipment that may contact this product should be cleaned thoroughly to avoid potential reactions with organic contaminants. Empty containers may contain residual liquid or vapors; therefore, empty containers should be handled with care. Dispose of in accordance with local regulations

Do not get this material in your eyes, on your skin, or on your clothing. Avoid breathing vapors or mists of this product. Wash thoroughly after handling. Do not eat, drink or use tobacco products when handling this material. Use this product with adequate ventilation. Launder work clothes frequently. See Section 8 for appropriate protective clothing, equipment and air monitoring procedures.

Open containers slowly, on a stable surface. Containers of this product must be properly labeled. Empty containers may contain residual liquid or vapors. Empty containers should be handled with care.

#### 7.2. Conditions for safe storage, including any Incompatibilities

Handle containers carefully to prevent damage and spillage.

Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see SECTION 10: Stability and Reactivity). Material should be stored in secondary containers, or in a diked area, as appropriate. Keep container tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged.

Keep away from organic materials. Keep away from combustible material. Keep in well-ventilated place. Store in 41-100F (5-38C).

Incompatible materials: This product will liberate flammable hydrogen gas when in contact with most metals. Avoid contact with cyanides, sulfides, sulfites, chlorine or chlorine bleaches, which would release toxic gases. Avoid contact with strong alkalis and mild steel. Flammable and combustible materials, strong reducing agents, finely powdered metals, strong acids.

See section 2 for further details. - [Storage]:

#### 7.3. Specific end use(s)

No data available.

## 8. Exposure controls and personal protection

### 8.1. Control parameters

Exposure			
CAS No.	Ingredient	Source	Value
7697-37-2	Nitric acid	OSHA	TWA 2 ppm (5 mg/m3)
		ACGIH	TWA: 2 ppm Ceiling: 4 ppm
		NIOSH	TWA 2 ppm (5 mg/m3) ST 4 ppm (10 mg/m3)
		Supplier	No Established Limit
7782-61-8	Iron(III) Nitrate, nonahydrate	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

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#### Carcinogen Data

CAS No.	Ingredient	Source	Value
7697-37-2	Nitric acid	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
7782-61-8	Iron(III) Nitrate, nonahydrate	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

#### 8.2. Exposure controls

- Respiratory** Respiratory protection; not normally required for ambient air concentrations not exceeding the Occupational Exposure Limit. When respiratory protection is required, wear a NIOSH/MSHA approved self-contained breathing apparatus with full-face piece operated in a positive-pressure mode.
- Eyes** Chemical safety glasses/chemical goggles/ face shield if mixing/pouring this material or if splashing is possible.
- Skin** Use of impervious apron/overalls recommended but not required to keep skin contact to a minimum. The breakthrough time of the selected glove(s) must be greater than the intended use period. Skin should not be exposed. Parts of the body coming in contact with this product should be washed thoroughly after contact. Use Nitrile or rubber acid resistant gloves.
- Engineering Controls** Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
- Other Work Practices** An eyewash fountain should be located in areas where the product is used. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse. Normal safe work practices for metal salts and acids are required.

See section 2 for further details. - [Prevention]:

## 9. Physical and chemical properties

<b>Appearance</b>	Reddish/Brown Liquid
<b>Odor</b>	Acid/Acid Odor
<b>Odor threshold</b>	Not Measured
<b>pH</b>	< 2
<b>Melting point / freezing point</b>	Dependent upon concentration
<b>Initial boiling point and boiling range</b>	~212F (100C)
<b>Flash Point</b>	Non-Flammable
<b>Evaporation rate (Ether = 1)</b>	Not Measured

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Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Measured
Vapor Density	Not Measured
Specific Gravity	1.10 - 1.60 (H <sub>2</sub> O=1)
Solubility in Water	Complete
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured
9.2. Other information	
No other relevant information.	

**10. Stability and reactivity****10.1. Reactivity**

Hazardous Polymerization will not occur.

**10.2. Chemical stability**

Stable under normal circumstances.

**10.3. Possibility of hazardous reactions**

No data available.

**10.4. Conditions to avoid**

Avoid exposure to extreme temperatures; flames; contact with incompatible materials; combustible materials. Avoid evaporation of liquid to crystals and organic materials (i.e. oil, grease)

**10.5. Incompatible materials**

This product will liberate flammable hydrogen gas when in contact with most metals. Avoid contact with cyanides, sulfides, sulfites, chlorine or chlorine bleaches, which would release toxic gases. Avoid contact with strong alkalis and mild steel. Avoid strong reducing agents, finely powdered metals, strong alkalis.

**10.6. Hazardous decomposition products**

Decomposition (on heating) of this product may produce acid vapors, toxic and corrosive fumes including those of carbon monoxide, oxides of nitrogen, nitric acid and metal oxides. Reacts with metals producing flammable/explosive hydrogen gas.

**11. Toxicological information****Acute toxicity**

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Iron(III) Nitrate, nonahydrate - (7782-61-8)	3,250.00, Rat -	> 5,000.00, Rat	No data	No data	No data

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	Category: 5	- Category: NA	available	available	available
Nitric acid - (7697-37-2)	No data available	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	1B	Causes severe skin burns and eye damage.
Serious eye damage/irritation	1	Causes serious eye damage.
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

**12. Ecological information****12.1. Toxicity**

No additional information provided for this product. See Section 3 for chemical specific data.

**Aquatic Ecotoxicity**

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Iron(III) Nitrate, nonahydrate - (7782-61-8)	Not Available	Not Available	Not Available
Nitric acid - (7697-37-2)	100.00, Asterias rubens	180.00, Carcinus maenas	Not Available

**12.2. Persistence and degradability**

There is no data available on the preparation itself.

**12.3. Bioaccumulative potential**

Not Measured



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**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

This product contains no PBT/vPvB chemicals.

**12.6. Other adverse effects**

No data available.

**13. Disposal considerations****13.1. Waste treatment methods**

Observe all federal, state and local regulations when disposing of this substance.

**14. Transport information**

	<b>DOT (Domestic Surface Transportation)</b>	<b>IMO / IMDG (Ocean Transportation)</b>	<b>ICAO/IATA</b>
<b>14.1. UN number</b>	UN3093	UN3093	UN3093
<b>14.2. UN proper shipping name</b>	UN3093, Corrosive liquids, oxidizing, n.o.s., (Ferric Nitrate Solution), 8, II	Corrosive liquids, oxidizing, n.o.s., (Ferric Nitrate Solution)	Corrosive liquids, oxidizing, n.o.s., (Ferric Nitrate Solution)
<b>14.3. Transport hazard class(es)</b>	<b>DOT Hazard Class:</b> 8 <b>DOT Label:</b> 8, 5.1	<b>IMDG:</b> Not Applicable <b>Sub Class:</b> Not Applicable	<b>Air Class:</b> Not Applicable
<b>14.4. Packing group</b>	II	II	II
<b>14.5. Environmental hazards</b>			
<b>IMDG</b>	Marine Pollutant: No		
<b>14.6. Special precautions for user</b>	No further information		

**15. Regulatory information**

<b>Regulatory Overview</b>	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.
<b>Toxic Substance Control Act (TSCA)</b>	All components of this material are either listed or exempt from listing on the TSCA Inventory.
<b>WHMIS Classification</b>	D2B E C
<b>US EPA Tier II Hazards</b>	<b>Fire:</b> No <b>Sudden Release of Pressure:</b> No <b>Reactive:</b> Yes <b>Immediate (Acute):</b> Yes

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Delayed (Chronic): No

**EPCRA 311/312 Chemicals and RQs (lbs):**

Nitric acid ( 1,000.00)

**EPCRA 302 Extremely Hazardous:**

Nitric acid

**EPCRA 313 Toxic Chemicals:**

Iron(III) Nitrate, nonahydrate

Nitric acid

**Proposition 65 - Carcinogens (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Developmental Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Female Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Male Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**N.J. RTK Substances (>1%):**

Nitric acid

**Penn RTK Substances (>1%):**

Nitric acid

**16. Other information**

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H272 May intensify fire; oxidizer.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

**This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.**

End of Document

## Univar USA Inc Safety Data Sheet

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For Additional Information contact SDS Coordinator during business hours, Pacific time: (425) 889-3400

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